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# मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 5126 (1996): Sensory Analysis - Vocabulary [FAD 16: Foodgrains, Starches and Ready to Eat Foods]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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भारतीय मानक

संवेदी विश्लेषण — शब्दावली

( पहला पुनरीक्षण )

*Indian Standard*

**SENSORY ANALYSIS — VOCABULARY**

*( First Revision )*

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**BUREAU OF INDIAN STANDARDS**  
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## NATIONAL FOREWORD

This Indian Standard (First Revision), which is identical with ISO 5492 : 1992 'Sensory analysis — Vocabulary', issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Food Analysis and Nutrition Sectional Committee and approval of the Food and Agriculture Division Council.

In the adopted standard certain terminology and conventions are not identical with those used in the Indian Standards; attention is drawn specially to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards the current practice is to use a point (.) as the decimal marker.

This standard was first published in two parts as under:

IS 5126 (Part 1) : 1969 Glossary of general terms for sensory evaluation of foods: Part 1 Methodology

IS 5126 (Part 2) : 1969 Glossary of general terms for sensory evaluation of foods: Part 2 Quality characteristics

While reviewing the standards committee decided to amalgamate both parts in one and to align with corresponding international standard ISO 5492 : 1992 as dual number standard.

# Indian Standard

## SENSORY ANALYSIS — VOCABULARY

### ( First Revision )

#### Scope

This International Standard gives a list of terms and their definitions relating to sensory analysis.

NOTE — Grammatical forms of terms have been indicated where it was felt useful to do so.

It applies to all industries concerned with the evaluation of products by the sense organs.

The terms are given under the following headings:

- 1 General terminology
- 2 Terminology relating to the senses
- 3 Terminology relating to organoleptic attributes
- 4 Terminology relating to methods

#### 1 General terminology

**1.1 sensory analysis:** Examination of organoleptic attributes of a product by the sense organs.

**1.2 sensory (adj.):** Relating to the use of the sense organs.

**1.3 organoleptic (adj.):** Relating to an attribute of a product perceptible by the sense organs.

**1.4 sensation (noun):** Subjective reaction resulting from sensory stimulation.

**1.5 assessor (sensory) (noun):** Any person taking part in a sensory test.

NOTE — A naive assessor is a person who does not meet any particular criterion. An initiated assessor is a person who has already participated in a sensory test.

**1.6 selected assessor:** Assessor chosen for his/her ability to perform a sensory test.

**1.7 expert (noun):** In the general sense, a person who, through knowledge or experience, has competence to give an opinion in the fields about which he/she is consulted.

In sensory analysis, there are two types of expert, the "expert assessor" and the "specialized expert assessor".

**1.7.1 expert assessor:** Selected assessor with a high degree of sensory sensitivity and experience of sensory methodology, who is able to make consistent and repeatable sensory assessments of various products.

**1.7.2 specialized expert assessor:** Expert assessor who has additional experience as a specialist in the product and/or process and/or marketing, and who is able to perform sensory analysis of the product and to evaluate or predict effects of variations relating to raw materials, recipes, processing, storage, ageing, etc.

**1.8 panel (noun):** Group of assessors chosen to participate in a sensory test.

**1.9 consumer (noun):** Person who uses a product.

**1.10 taster (noun):** Assessor, selected assessor or expert who evaluates the organoleptic attributes of a food product, mainly with the mouth.

The term "tester" in English is given as the translation of the French term "degustateur"; however, it shall not be used as a synonym of "assessor".

**1.11 tasting (noun):** Sensory assessment of a food product in the mouth.

**1.12 attribute (noun):** Perceptible characteristic.

**1.13 acceptability (noun):** State of product favourably received by a given individual or population, in terms of its organoleptic attributes.

**1.14 acceptance (noun):** The act of a given individual or population of finding that a product answers satisfactorily to his/her/its expectations.

**1.15 preference (noun):** Expression of the emotional state or reaction of an assessor which leads him/her to find one product better than one or several others.

**1.16 aversion (noun):** Feeling of repulsion provoked by a stimulus.

**1.17 discrimination** (*noun*) : Act or qualitative and/or quantitative differentiation between two or more stimuli.

**1.18 appetite** (*noun*) : Physiological state expressed by the desire to eat food and/or to drink.

**1.19 appetizing** (*adj.*) : Describes a product capable of exciting the appetite of the individual.

**1.20 palatability** (*noun*) : Combination of properties of a product which make it pleasant to consume.

**1.21 hedonic** (*adj.*) : Relating to like or dislike.

**1.22 psychophysics** (*noun*) : Study of relationships between stimuli and the corresponding sensory response.

**1.23 olfactometry** (*noun*) : Measurements of the response of assessors to olfactory stimuli.

**1.24 odorimetry** (*noun*) : Measurement of the odorant properties of substances.

**1.25 olfactometer** (*noun*) : Apparatus used to present olfactory stimuli to assessors under reproducible conditions.

**1.26 odorant** (*noun*) : Product which is able to induce an olfactory sensation.

**1.27 quality** (*noun*) : Collection of features and characteristics of a product or service that confer its ability to satisfy stated or implied needs.

**1.28 quality factor** : One feature or characteristic chosen among other to assess the overall quality of a product.

**1.29 product** (*noun*) : Edible or inedible matter which can be evaluated by sensory analysis.

Examples: food products, cosmetics, textile fabrics.

## 2 Terminology relating to the senses

**2.1 receptor** (*noun*) : Specific part of a sense organ which responds to a particular stimulus.

**2.2 stimulus** (*noun*) : That which can excite a receptor.

**2.3 perception** (*noun*) : Awareness of the effects of single or multiple sensory stimuli.

**2.4 taste** (*noun*)

(1) Sensations perceived by the taste organ when stimulated by certain soluble substances.

(2) Sense or taste.

(3) Attribute of products inducing taste sensations.

The term "taste" shall not be used to designate the combination of gustatory, olfactory and trigeminal sensations which are designated by the term "flavour" (see 3.17). If, in informal language, this term is used in this sense, it should always be associated with a qualifying term, e.g. musty taste, raspberry taste, corky taste.

**2.5 gustatory** (*adj.*) : Pertaining to the sense of taste.

**2.6 gustation** (*noun*) : Function of the sense of taste.

**2.7 olfactory** (*adj.*) : Pertaining to the sense of smell.

**2.8 to smell** (*verb*) : To perceive or to attempt to perceive an odour.

**2.9 touch** (*noun*)

(1) Tactile sense.

(2) Recognition of the form and of the state of product characteristics by means of direct skin contact.

**2.10 vision** (*noun*)

(1) Sense of sight.

(2) Discrimination of differences in the external world, resulting from the sensory impressions produced by light rays entering the eye.

**2.11 sensitivity** (*noun*) : Ability to perceive, identify and/or differentiate, qualitatively and/or quantitatively, one or more stimuli by means of the sense organs.

NOTE — In French this term should be differentiated from the term "sensibilité", which does not refer to the level of ability.

**2.12 intensity** (*noun*)

(1) The magnitude of the perceived sensation.

(2) The magnitude of the stimulus causing the perceived sensation.

**2.13 kinaesthesia** (*noun*) : Sensations resulting from pressure on the sample, produced by a muscle movement (for example, testing of cheese by finger pressure, biting of an apple).

**2.14 sensory adaptation** : Temporary modification of the sensitivity of a sense organ due to continued and/or repeated stimulation.

**2.15 sensory fatigue** : Form of sensory adaptation in which a decrease in sensitivity occurs.

**2.16 ageusia** (*noun*) : Lack of sensitivity to taste stimuli.

Ageusia may be total or partial, and permanent or temporary.

**2.17 anosmia** (*noun*) : Lack of sensitivity to olfactory stimuli.

Anosmia may be total or partial, and permanent or temporary.

**2.18 hyperosmia** (*noun*): Increased sensitivity to one or several olfactory stimuli.

**2.19 hyposmia** (*noun*) : Reduced sensitivity to one or several olfactory stimuli.

**2.20 dyschromatopsia** (*noun*) : Defective colour vision, characterized by a perception significantly different from that of a standard observer.

**2.21 pseudothermal effects** : Sensations of heat or cold, produced by certain substances, unrelated to the temperature of the substance. For example, these sensations are produced by capsaicin (hot) and menthol (cold).

**2.22 trigeminal sensations** : Irritating or aggressive sensations perceived in the mouth or in the throat.

**2.23 antagonism** (*noun*): Joint action of two or more stimuli, whose combination elicits a level of sensation lower than that expected from superimposing the effects of each stimulus taken separately.

**2.24 synergism** (*noun*) : Joint action of two or more stimuli, whose combination elicits a level of sensation in excess of that expected from a simple addition of the effects of each stimulus taken separately.

**2.25 masking** (*noun*) : Decrease in the intensity or change in the quality of the perception of one stimulus by the simultaneous action of another.

**2.26 contrast effect** : Increase in response to differences between two simultaneous or consecutive stimuli.

**2.27 convergence effect** : Decrease in response to differences between two simultaneous or consecutive stimuli.

**2.28 threshold** (*noun*)

The term "threshold" is always used with a qualifying term; see 2.29 to 2.34.

**2.29 stimulus threshold** : detection threshold: Minimum value of a sensory stimulus needed to give rise to a sensation. The sensation need not be identified.

**2.30 recognition threshold** : Minimum value of a sensory stimulus permitting identification of the sensation perceived.

**2.31 difference threshold** : Value of the smallest perceptible difference in the physical intensity of a stimulus.

NOTE — In English, the term "difference threshold" is sometimes designated by the letters "DL" (difference limen) or the letters "JND" (just noticeable difference).

**2.32 terminal threshold** : Minimum value of an intense sensory stimulus above which no difference in intensity can be perceived.

**2.33 sub-threshold** (*adj.*) : Pertains to a stimulus below the type of threshold under consideration.

**2.34 supra-threshold** (*adj.*) : Pertains to stimulus above the type of threshold under consideration.

### 3 Terminology relating to organoleptic attributes

**3.1 acid** (*taste*) (*adj.*) : Describes the basic taste produced by dilute aqueous solutions of most acid substances (e.g. citric acid and tartaric acid).

**3.2 acidity** (*noun*) : Organoleptic attribute or pure substances or mixtures which produces the acid taste.

**3.3 acidulous** (*adj.*) (archaic) : Describes a product whose taste is slightly acid.

**3.4 sour** (*adj.*) : Describes an olfactory and/or gustatory complex sensation, generally due to the presence of organic acids.

The term "sour" shall not be used as a synonym for the primary taste acid.

NOTE — Sometimes this term has a negative hedonic sense.

**3.5 sourness** (*noun*) : Organoleptic attribute of pure substances or mixtures which produces the sour sensation.

**3.6 sourish** (*adj.*) : Describes a product that is slightly sour (see 3.4) or that shows signs of acid fermentation.

NOTE — In English, the term "slightly sour" is more frequently used than the term "sourish".

**3.7 bitter** (*taste*) (*adj.*) : Describes the basic taste produced by dilute aqueous solutions of various substances such as quinine and caffeine.

**3.8 bitterness** (*noun*) : Organoleptic attribute of pure substances or mixtures which produces the bitter taste.



**3.9 salty (taste) (*adj.*)** : Describes the basic taste produced by aqueous solutions of various substances such as sodium chloride.

**3.10 saltiness (*noun*)** : Organoleptic attribute of pure substances or mixtures which produces the salty taste.

**3.11 sweet (taste) (*adj.*)** : Describes the basic taste produced by aqueous solutions of various substances such as sucrose.

**3.12 sweetness (*noun*)** : Organoleptic attribute of pure substances or mixtures which produces the sweet taste.

**3.13 alkaline (taste) (*adj.*)** : Describes the basic taste produced by aqueous solutions of basic substances.

**3.14 alkalinity (*noun*)** : Organoleptic attribute of pure substances or mixtures which produces the alkaline taste.

**3.15 astringent : harsh (*adj.*)** : Describes the complex sensation, accompanied by shriking, drawing or puckering of the skin or mucosal surface in the mouth, produced by substances such as kaki tannins and sloe tannins.

**3.16 astringency (*noun*)** : Organoleptic attribute of pure substances or mixtures which produces the astringent sensation.

**3.17 flavour (*noun*)** : Complex combination of the olfactory, gustatory and trigeminal sensations perceived during tasting. The flavour may be influenced by a tactile, thermal, painful and/or kinaesthetic effects.

**3.18 off-flavour** : A typical flavour often associated with deterioration or transformation of the product.

**3.19 off-odour** : A typical odour often associated with deterioration or transformation of the product.

**3.20 taint** : Taste or odour foreign to the product.

**3.21 taste (*noun*)**

See 2.4.

NOTE — In French the term "saveur" corresponds only to (1) and (3) of 2.4.

**3.22 basic taste** : Any one of the distinctive tastes: acid, bitter, salty, sweet, alkaline, umami, metallic.

**3.23 sapid (*adj.*) (*archaic*)** : Describes a product which has taste.

**3.24 tasteless : flavourless (*adj.*)** : Describes a product which has no flavour.

**3.25 insipid (*adj.*)** : Describes a product with a much lower level of flavour than expected.

**3.26 bland (*adj.*)** : Describes a product with a low level of flavour, and without character.

**3.27 neutral (*adj.*)** : Describes a product without any distinct characteristic.

**3.28 flat (*adj.*)** : Describes a product the perception of which is below the expected organoleptic level.

**3.29 flavour enhancer** : Substance which intensifies the flavour of certain products without possessing this flavour.

**3.30 mouthfeel (*noun*)** : The tactile sensations perceived at the lining of the mouth, including the tongue, gums and teeth.

**3.31 after-taste (*noun*)** : residual taste: Olfactory and/or gustatory sensation which occurs after the elimination of the product, and which differs from the sensations perceived whilst the product was in the mouth.

**3.32 persistence (*noun*)** : Olfactory and/or gustatory sensation similar to that which was perceived whilst the product was in the mouth and which continues for a measurable period of time.

**3.33 aroma (*noun*)**

NOTE — The sense or the terms "aroma" in English and "arome" in French is not exactly equivalent.

(1) French sense: Organoleptic attribute perceptible by the olfactory organ via the back of the nose when tasting.

(2) English sense and French informal language: An odour with a pleasant connotation.

**3.34 odour (*noun*)** : Organoleptic attribute perceptible by the olfactory organ on sniffing certain volatile substances.

**3.35 note (*noun*)** : Distinctive and identifiable feature of an odour or flavour.

**3.36 off-note** : A typical note often associated with deterioration or transformation of the product.

**3.37 appearance (*noun*)** : All the visible attributes of a substance or object.

**3.38 consistency (*noun*)** : Flow attributes detected by stimulation of the mechanical and tactile receptors, especially in the region of the mouth, and which vary with the texture of the product.

**3.39 body (noun)** : Richness of flavour or impression of consistency given by a product.

**3.40 shiny (adj.)** : Describes the attributes of a glossy surface showing bright reflection.

**3.41 colour (noun)**

(1) Sensation induced by the stimulation of the retina by light rays or various wavelengths.

(2) Attribute of products including the colour sensation.

**3.42 hue (noun)** : That attribute of colour which corresponds to variation in wavelengths.

**3.43 saturation (of a colour) (noun)** : Degree of purity of a colour.

**3.44 luminance (noun)** : Degree of lightness or darkness of a colour compared with a neutral grey in a scale ranging from absolute black to absolute white.

**3.45 transparent (adj.)** : Describes an object allowing light to pass and distinct images to appear.

**3.46 translucent (adj.)** : Describes an object allowing light to pass but which does not allow images to be distinguished.

**3.47 opaque (adj.)** : Describes an object not allowing the passage of light.

**3.48 bouquet (noun)** : Group of specific olfactory notes allowing a product (wine, spirits, etc.) to be characterized.

**3.49 burning (adj.)** : Describes a product causing a sensation of heat in the buccal cavity (as produced by chilli and pepper).

**3.50 pungent (adj.)** : Describes a product causing a sharp sensation of the buccal and nasal mucous membranes (examples: vinegar, mustard).

**3.51 texture (noun)** : All the mechanical, geometrical and surface attributes of a product perceptible by means of mechanical, tactile and, where appropriate, visual and auditory receptors.

The mechanical attributes are those related to the reaction of the product to stress. They are divided into five primary characteristics, i.e. hardness, cohesiveness, viscosity, springiness and adhesiveness.

The geometrical attributes are those related to the size, shape and arrangement of particles within a product.

The surface attributes are those related to the sensations produced by moisture and/or fat content. In the mouth they are also related to the way in which these constituents are released.

**3.52 hardness (noun)** : Mechanical textural attribute relating to the force required to achieve a given deformation or penetration of a product.

In the mouth, it is perceived by compressing the product between the teeth (solids) or between the tongue and palate (semi-solids).

The main adjective corresponding to different levels of hardness are as follows:

**soft** : low level

Example, cream cheese.

**firm** : moderate level

Example, olive.

**hard** : high level

Example, boiled sweets.

**3.53 cohesiveness (noun)** : Mechanical textural attribute relating to the degree to which a substance can be deformed before it breaks.

It includes the properties of fracturability (3.54), chewiness (3.55) and gumminess (3.56).

**3.54 fracturability (noun)** : Mechanical textural attribute related to cohesiveness and to the force necessary to break a product into crumbs or pieces.

It is evaluated by suddenly squeezing a product between the incisors (front teeth) or fingers.

The main adjectives corresponding to different levels of fracturability are as follows:

**crumbly**: low level.

Example, corn muffin cake.

**crunchy**: moderate level

Examples, apple, raw carrot.

**brittle**: high level

Examples, peanut brittle, brandy snaps.

**crispy**: high level

Example, potato crisps, cornflakes.

**crusty**: high level

Example, crust of fresh French bread.

**3.55 chewiness (noun)** : Mechanical textural attribute related to cohesiveness and to the length of time or the number of chews required

to masticate a solid product into a state ready for swallowing.

The main adjectives corresponding to different levels of chewiness are as follows:

**tender:** low level

Example, young peas.

**chewy:** moderate level

Example, fruit gums (confectionery).

**tough:** high level

Examples, old cow meat, bacon rind.

**3.56 gumminess**<sup>1)</sup> (*noun*) : Mechanical textural attribute related to the cohesiveness of a tender product. In the mouth, it is related to the effort required to disintegrate the product to the state ready for swallowing.

The main adjectives corresponding to different levels of gumminess are as follows:

**short :** low level

Example, shortbread.

**mealy :** powdery: moderate level

Examples, certain potatoes, cooked dry haricot beans.

**pasty :** moderate level

Example, chestnut puree.

**gummy :** high level

Example, overcooked oatmeal cereal, edible gelatine.

**3.57 viscosity** (*noun*) : Mechanical textural attribute relating to resistance to flow. It corresponds to the force required to draw a liquid from a spoon over the tongue, or to spread it over a substrate.

The main adjectives corresponding to different levels of viscosity are as follows:

**fluid:** low level

Example, water.

**thin:** moderate level

Example, sauce.

**unctuous :** moderate level

Example, double cream.

**viscous:** high level

Examples, sweetened condensed milk, honey.

**3.58 springiness** (*noun*) : Mechanical textural attribute relating to

a) the rapidity of recovery from a deforming force, and

b) the degree to which a deformed material returns to its undeformed condition after the deforming force is removed.

The main adjectives corresponding to different levels of springiness are as follows:

**plastic:** absence

Example, margarine.

**malleable:** moderate level

Example, marshmallow.

**elastic; springy; rubbery:** high level

Examples, calamary, clams.

**3.59 adhesiveness** (*noun*) : Mechanical textural attribute relating to the force required to remove material that adheres to the mouth or to a substrate.

The main adjectives corresponding to different levels of adhesiveness are as follows:

**sticky:** low level

Example, marshmallow topping.

**tacky:** moderate level

Example, cream toffee.

**gooey; gluey:** high level

Examples, caramel sundae topping, overcooked rice, tapioca.

**3.60 granularity**<sup>1)</sup> (*noun*) : Geometrical textural attribute relating to the perception of the size and shape of particles in a product.

The main adjectives corresponding to different levels of granularity are as follows:

**smooth:** absence

Example, icing sugar.

**gritty:** low level

Example, certain pears.

**grainy:** moderate level

Example, semolina.

**coarse:** high level

Example, cooked rolled oatmeal.

**3.61 conformation** (*noun*) : Geometrical textural attribute relating to the perception of the

1) There is no French equivalent noun. The term "broyabilité" is a neologism proposed.

1) There is no French equivalent noun. The term "granulosité" is a neologism proposed.

shape and the orientation of particles in a product.

The main adjectives corresponding to different conformations are as follows:

**fibrous:** long particles, oriented in the same direction.

Example, celery.

**cellular:** spherical or ovoid particles.

Example, orange.

**crystalline:** angular particles.

Example, granulated sugar.

### 3.62 **moisture** (*noun*) :

Surface textural attribute which describes the perception of water absorbed by or released from a product.

The main adjectives corresponding to different levels of moisture are as follows:

**dry:** absence

Example, cream cracker.

**moist:** low level

Example, apple.

**wet:** high level

Examples water chestnut, oysters.

**juicy:** high level

Example, orange.

**succulent**<sup>1)</sup>: high level

Example, meat.

**watery:** water-like perception.

Example, water melon.

**3.63 fatness**<sup>2)</sup> (*noun*): Surface textural attribute relating to the perception of the quantity or the quality of fat in a product.

The main adjectives corresponding to the perception of fatness are as follows:

**oily:** perception of soaking and running fat.

Example, salad with French dressing.

**greasy:** perception of exuding fat.

Examples, bacon, chips.

**fatty:** perception of high fat proportion in a product, without exudation.

Examples, lard, tallow.

## 4 Terms relating to methods

**4.1 test sample :** Sample of the material under test.

**4.2 test portion :** The portion of the test sample which is directly tested by the assessor.

**4.3 reference point :** Selected value (of one or several attributes or of a product) against which samples are assessed.

**4.4 control** (*noun*) : Samples of the material under test chosen as a reference point against which all other samples are compared.

**4.5 reference** (*noun*) : Substances, different from the material under test, used to define an attribute or a specified level of a given attribute.

**4.6 difference test :** Any method of test involving comparison between samples.

**4.7 preference test :** Test to assess preference between two or several samples.

**4.8 paired comparison test :** Method in which stimuli are presented in pairs for comparison on the basis of some defined attributes.

**4.9 triangle test :** Method of difference testing involving the simultaneous presentation of three coded samples, two of which are identical. The assessor is asked to select the samples perceived as different.

**4.10 duo-trio test :** Method of difference testing in which the control is presented first, followed by two samples, one of which is the same as the control sample. The assessor is asked to identify the sample which is different from the control.

**4.11 "two-out-of-five" test :** Method of difference testing involving five coded samples, two of which are of one type and three of which are of another. The assessor is asked to group the samples into sets comprising two and three samples of identical perception.

**4.12 "A" or "not A" test :** Test in which a series of samples which may be "A" or "not A" is presented to the assessor after he/she has learned to recognize sample "A". The assessor is asked to indicate whether each sample is "A" or "not A".

**4.13 grading** (*noun*) : Usual general term used to designate all the methods described in 4.14 to 4.17.

1) By extension, this term has a hedonic sense which means delicious, excellent.

2) There is no French equivalent noun. The term "lipidité" is a neologism proposed.

**4.14 ranking (noun)** : Method of classification in which a series of samples is placed in order of intensity or degree of some specified attribute. This process is ordinal with no attempt made to assess the magnitude of the differences.

**4.15 classification (noun)** : Method of sorting into predefined nominal categories.

**4.16 rating (noun)** : Method of classification according to categories, each of which is placed on an ordinal scale.

**4.17 scoring (noun)** : Method of evaluation of a product or of the attributes of a product by means of scores (having a mathematical significance).

**4.18 dilution method** : Technique in which samples are prepared at increasingly lower concentrations and examined in series.

**4.19 screening (noun)** : Preliminary selection procedure.

**4.20 matching (noun)** : Process of equating or relating stimuli, in pairs, usually to determine the degree of similarity between a control and an unknown or between unknowns.

**4.21 objective method** : Any method in which the effects of personal opinions are minimized.

**4.22 subjective method** : Any method in which the personal opinions are taken in consideration.

**4.23 magnitude estimation** : Process of assigning values to the intensities of an attribute in such a way that the ratio of the value assigned and the assessor's perception are the same.

**4.24 independent assessment** : Evaluation of one or more stimuli without direct comparison.

**4.25 comparative assessment** : Comparison of stimuli presented at the same time.

**4.26 descriptive quantitative analysis : profile** : The use of descriptive terms in evaluating the sensory attributes of a sample and the intensity of each attribute.

**4.27 scale (noun)** : Continuum, divided into successive values, which may be graphical, descriptive or numerical, used in reporting the level of characteristic.

**4.28 hedonic scale** : Scale expressing degrees of like or dislike.

**4.29 bipolar scale** : Scale with opposite descriptions at the two ends (e.g. a texture scale ranging from hard to soft).

**4.30 unipolar scale** : Scale with only one descriptor at one of the ends.

**4.31 ordinal scale** : Scale where points are arranged according to a pre-established or continuous progression.

**4.32 interval scale** : Scale where numbers are chosen in such a way that equal numerical intervals are assumed to correspond to equal differences in sensory perception.

**4.33 ratio scale** : Scale where numbers are chosen in such a way that equal numerical ratios are assumed to correspond to equal sensory perception ratios.

**4.34 error (of assessment)** : The difference between the observed value (or assessment) and the true value.

**4.35 random error** : Unpredictable errors which average to zero.

**4.36 bias (noun)** : Systematic errors which may be positive or negative.

**4.37 expectation bias** : Bias due to the assessor's preconceived ideas.

**4.38 true value** : A particular value which assessments are intended to estimate.

**4.39 standard illuminants** : Colorimetric illuminants relating to the range of artificial or natural lights and defined by the International Lighting Commission (CIE).

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